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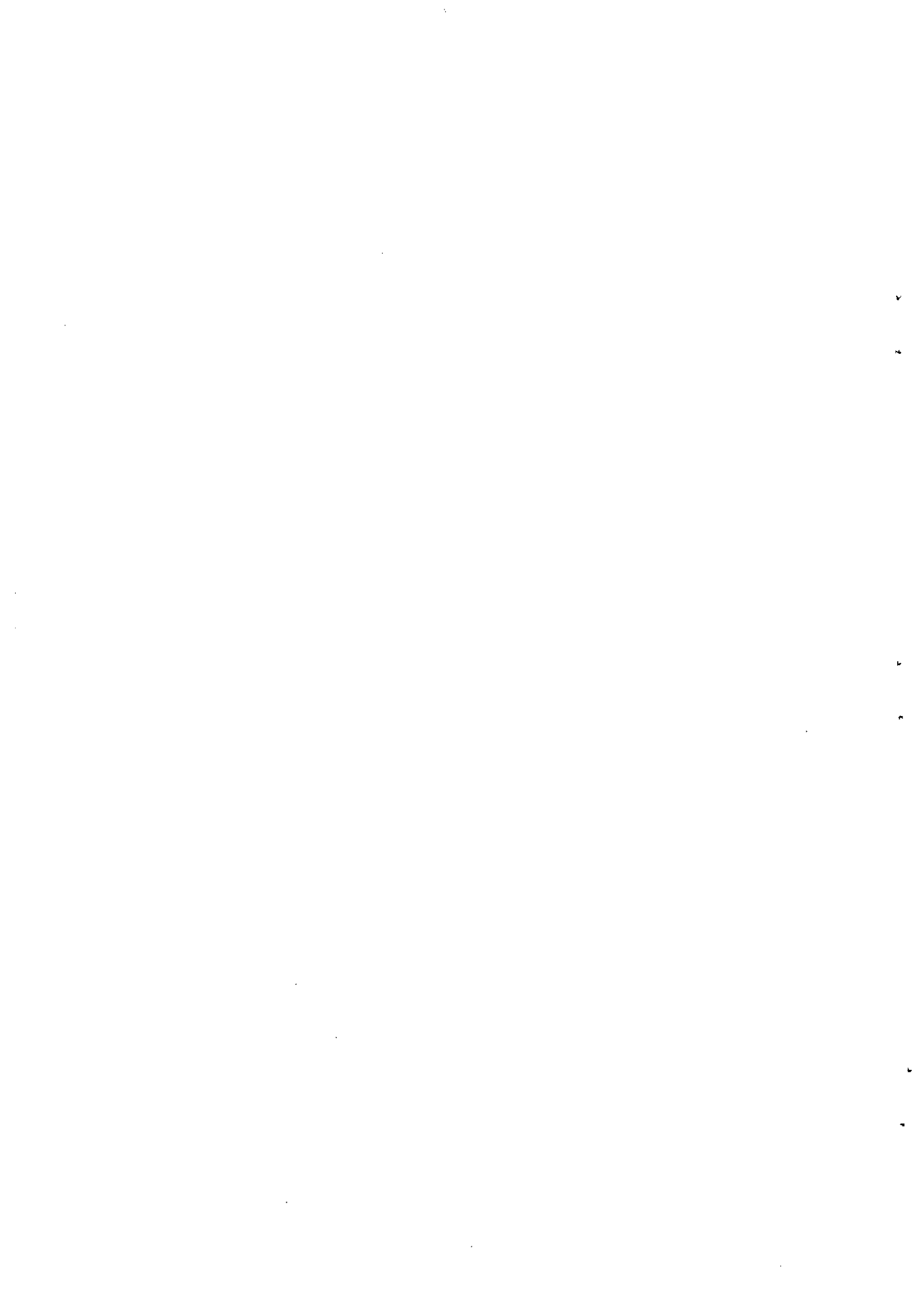
Population Concentration and Regional Income
Disparity: A Comparative Analysis of
Japan and Korea*

December 1976

Koichi Mera

University of Tsukuba

*The original version of this paper has been prepared for presentation at The Dynamics of Human Settlements Conference held by IISA on December 13-16, at Laxenburg, Austria.



I. Introduction

In most countries, national policy-makers are seriously concerned with increasing concentration of economic activities and population in primate cities. Although the economic damages which are thought to result from such concentration may not be real,^{1/} it certainly creates socio-political problems which are essentially related to the distribution of opportunities. Consequently, an increasing number of countries have started to adopt "decentralization policies." I shall address myself to the question of population concentration as related to such spatial distribution policies.

Last year I wrote a paper about the Japanese experience in population concentration in largest metropolitan areas, and drew a policy implication for developing countries.^{2/} The paper notes extremely rapid shift of population distribution into largest metropolitan areas during the period of rapid economic growth and declining rate of concentration since about 1970. Upon examining alternative factors which might have contributed to population concentration, the paper concludes:

"The foregoing analysis has revealed that the recent emergence of a new pattern of population shifts, which can be characterized by a lesser degree of incremental population concentration in large metropolitan areas and a lesser number of depopulating prefectures does not necessarily imply changes in the preferences of the population. Rather, it can be explained by continuing changes in economic variables. Specifically, the slowing down of the economic growth rate and the declining income disparity among prefectures are considered

^{1/} Refer to Alonso, William, "The Economics of Urban Size," Regional Science Association Papers 26 (1971), pp.67-83 and Mera, Koichi, "On the Urban Agglomeration and Economic Efficiency," Economic Development and Cultural Change 21 (January, 1973), pp.309-324.

^{2/} Mera, Koichi, "The Changing Pattern of Population Distribution in Japan and its Implications for Developing Countries," to appear in Habitat; University of Tsukuba Institute of Socio-Economic Planning, Discussion Paper Number 4, November 1975.

to be largely responsible for the recent change. It is to be emphasized that these two factors outweighed the continuing upward trend of population concentration which can be considered to be a result of general improvement in transport and communication over time. Intensified concern over the environment and a possible change in values in life might have contributed to some extent to the change, but the evidence is too uncertain to conclude this."^{3/}

Among the variables mentioned above, the income disparity among regions is, as was noted earlier by Williamson, related to economic growth.^{4/} In the case of Japan, the converging trend of income disparity set in in 1961 and continued since then in parallel with a generally high rate of economic growth. It is to be noted also that convergence started before the implementation of government's policies for decentralization of major economic activities.

Therefore, it can be inferred, just as Williamson found earlier, that as the economy develops from a low level, income disparity among regions intensifies for some time, but upon reaching a certain level of development, income disparity begins to decline along with economic development. Then, as each of the two factors, economic growth and regional income disparity, tends to intensify population concentration, population concentration intensifies during the initial phase of development, but during the second phase of development, the trend for greater population concentration will be substantially reduced or even reversed as regional income disparity diminishes. Therefore, the problem of population concentration was concluded as "a temporary problem for developing countries."^{5/} Consequently, higher and sustained rate of economic growth was suggested as a device for overcoming the problem of population concentration in developing countries.

^{3/} Mera, op. cit., p. 26.

^{4/} Williamson, J. G., "Regional Inequality and the Process of National Development: A Description of the Patterns," Economic Development and Cultural Change 13 (July, 1965), Part 2.

^{5/} Mera, op. cit., p. 28.

Although it would be a temporary problem, it might take several decades until the problem of population concentration is substantially ameliorated to a satisfactory level. This appears to have been the case with Japan. If so, the economic growth approach to the problem of population concentration, suggested by me, would be too a roundabout approach to consider seriously.

Since then, I had an opportunity to examine the spatial population distribution issues in the Republic of Korea. What is striking with this case is the fact that the similar developments have been taking place in Korea but at much faster rates and earlier in relation to "the level of development." This case implies that the economic growth approach may be successful in coping with the problem of population concentration within the time span of some ten years for a number of developing countries.

The two cases are of interest, too, because each country has been observed to go through both the ascending and descending stages of regional income disparity.

In what follows, I shall present the two cases and attempt to identify the causes of differences. Policy implications are presented at the end.

II. The Japanese Experience

The Growth rate of population varied widely among prefectures which presently number 47. The shifts of population in Japan since World War II can generally be characterized by increasing concentration into the two largest metropolitan areas, the Capital Region and the Kinki Urban Region with Tokyo and Osaka, respectively, as its center.^{6/}

^{6/} Capital Region is defined to comprise Prefectures of Tokyo, Saitama, Chiba and Kanagawa, and Kinki Urban Region to comprise Prefectures of Osaka, Kyoto, Hyogo and Nara.

Within these urban regions, the population growth rates of prefectures were generally higher than the national average rate of growth and often exceeded 6 percent per year. The growth rate was generally higher in the Capital Region, in which Tokyo Prefecture recorded the highest rate among the four prefectures in the region almost every year from 1952 to 1959. Since then, its surrounding prefectures of Kanagawa, Saitama and Chiba overtook Tokyo in the growth rate. As a result of generally high growth rates of population in the region, the population share of the Capital Region in the nation increased from 15.69% in 1950 to 23.26% in 1970. The Kinki Region also gained its population share. The two prefectures of Osaka and Hyogo combined, which is a subset of the Kinki Region exhibited generally higher growth rates within the region, increased its share from 8.62% in 1950 to 11.85% in 1970.

In contrast, most prefectures in the Northeast and Western Regions lost their share in population almost every year since 1950. The six northeastern prefectures as a group lost its share from 10.84% in 1950 to 8.71% in 1970 and the seven Kyushu prefectures from 14.55% to 11.63% during the same period.^{7/}

This pattern of shifts in population distribution can be seen by the number of depopulating prefectures. According to population registration records maintained by the Ministry of Local Autonomy, the number of "fast depopulating prefectures" (FDP) which are defined to be those prefectures having a growth rate of population more than 1 percentage point below the national mean, exceeded 20 in 6 years out of nine from 1952 to 1960, and consistently exceeded 20 from 1961 to 1970, ranging from 20 to 28. However, since then, the number has

^{7/} Northeastern Region comprises Prefectures of Aomori, Iwate, Miyagi, Akita, Yamagata and Fukushima, and Kyushu Region comprises Prefectures of Fukuoka, Saga, Nagasaki, Kumamoto, Oita, Miyazaki and Kagoshima.

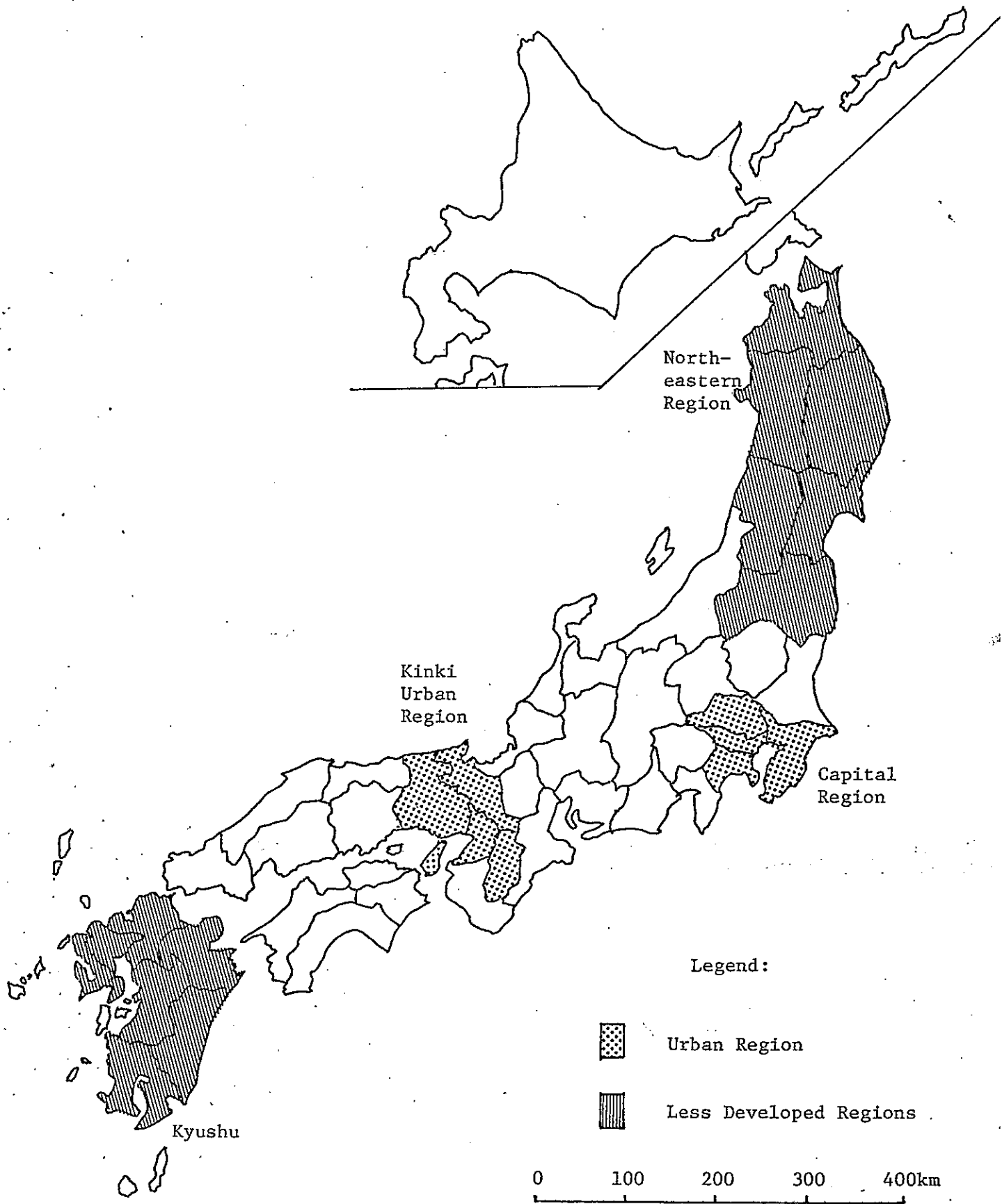


Figure 1: Urban Regions and Less Developed Regions in Japan.

been definitely on the declining trend and was reduced to one in 1975, indicating a marked departure from the past trend (see Table 1).

The marked change in the shifts of population distribution can also be seen in the degree of change in population concentration in the largest metropolitan regions. This variable can be measured by the proportion of the annual incremental population which was absorbed within the designated metropolitan regions. Two alternative designations will be used for the purpose of analysis:

PCC - Percentage of incremental population absorbed in the Capital Region, and

PCCK - Percentage of incremental population absorbed in the Capital and Kinki Urban Regions together.

The values of these indices during the past 22 years are presented in Table 1.

As before, the rate of population concentration is postulated to be a function of the following factors:

- 1) the change in value orientation from economic affluence to environmental amenity.
- 2) the rate of economic growth.
- 3) the degree of income disparity among prefectures, and
- 4) the general trend.

The change in value orientation is not directly measurable, but, if any, is considered to have set in around 1970 in the minds of the general public.^{8/} Therefore, this will be represented by

^{8/} The environment became a major political issue in 1970 and a task force was established within the Cabinet for establishing policies for pollution control and abatement. The Environmental Protection Agency was established in 1971.

Table 1
Selected Development Indices: Japan, 1954-1975

	PCC ^{1/}	PCCK ^{1/}	GR ^{2/}	ID1 ^{3/}	ID2 ^{3/}	T	TD	FDP ^{4/}
1954	27.0	42.5	2.8			0	0	6
55	26.9	45.4	10.8	93.9	0.18	1	0	4
1956	33.0	53.6	6.2	99.1	0.20	2	0	15
57	44.3	67.2	7.8	93.3	0.20	3	0	21
58	37.0	59.3	6.0	91.2	0.19	4	0	20
59	43.9	71.4	11.2	93.7	0.19	5	0	24
60	62.2	94.6	12.5	94.1	0.19	6	0	21
1961	75.9	120.0	13.5	99.5	0.20	7	0	22
62	86.4	132.5	6.4	97.8	0.20	8	0	24
63	64.4	99.8	12.5	92.8	0.20	9	0	22
64	62.1	91.6	10.6	90.8	0.19	10	0	24
65	61.7	90.7	5.7	84.9	0.17	11	0	28
1966	72.3	103.1	11.1	83.2	0.16	12	0	21
67	74.2	117.9	13.1	80.0	0.16	13	0	21
68	87.9	127.5	12.7	78.5	0.15	14	0	23
69	82.8	117.1	11.0	78.3	0.15	15	0	20
70	67.3	95.5	10.4	77.9	0.16	16	1	21
1971	49.7	72.5	7.3	73.3	0.15	17	1	18
72	44.7	64.5	9.8	71.1	0.15	18	1	13
73	39.1	56.4	6.1	66.8	0.13	19	1	7
74	35.4	50.7	-0.6	65.8	0.13	20	1	3
75	37.1	51.8	1.6			21	1	1

Sources: 1/ Computed from Japan Ministry of Local Autonomy, Population and Household Statistics, 1976 (Tokyo: Ministry of Finance Printing Office, 1976).

2/ Japan Economic Planning Agency, Annual Report on National Income Statistics, 1975 (Tokyo: Ministry of Finance Printing Office, 1975) for 1954 to 1973 and Japan Economic Research Center, Quarterly Economic Projections for 1974 and 1975.

3/ Mera, op. cit., p.11 for 1955 to 1972 and Japan Economic Planning Agency, "Outline of Prefectural Incomes, 1974," mimeographed, 1976, for 1973 and 1974.

4/ Mera, op. cit., p. 5 for 1954 to 1974 and Ministry of Local Autonomy, Population and Household Statistics, 1976, Tokyo, Ministry of Finance Printing Office, 1976, for 1975.

a time dummy variable (TD) which takes the value of one since 1970.

The growth rate of the economy (GR) is considered to be a factor for population concentration as a considerable amount of literature exists that confirms positive association with population concentration and economic growth.^{9/}

Interregional disparity of income would certainly be a factor for migration. Good literature exists for the Japanese economy which explains the flows of migrants with income differentials.^{10/}

Two alternative indices of income disparity will be used for analytic purposes:

Range of Income Disparity (ID1)

- the difference between the highest and the lowest indices of prefectural per capita personal income when the national average is set at 100, and

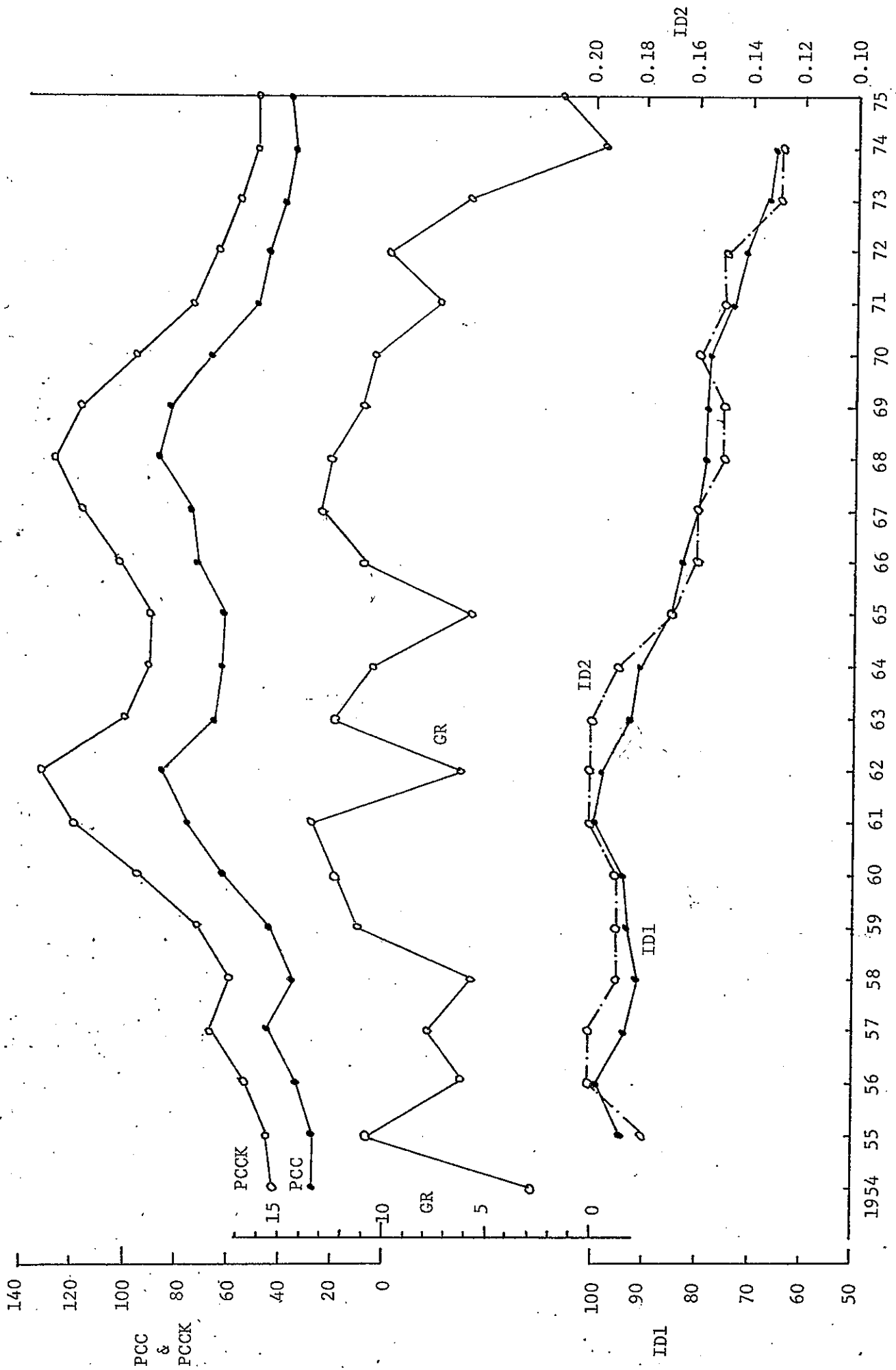
Coefficient of Variation (ID2)

- the unweighted coefficient of variation of all prefectural per capita incomes.

The values of these variables are presented in Table 1 and graphically shown in Figure 2. The table also contains the time variable (T) for representing the general trend. This trend may be interpreted to represent the general improvements in interregional transportation and communication over time.

^{9/} Particularly, William Alonso, "The Economics of Urban Size," Regional Science Association Papers 26 (1971), pp. 67-83; Koichi Mera, "On the Urban Agglomeration and Economic Efficiency," Economic Development and Cultural Change 21 (January 1973), pp. 309-324; and L. A. Sveikanskas, "The Productivity of Cities," Quarterly Journal of Economics 89 (August 1975), pp. 393-413.

^{10/} Minoru Tachi, "Regional Income Disparity and Internal Migration of Population in Japan," Economic Development and Cultural Change 12 (January 1964), pp. 184-204; M. Shinohara, "Industrial Growth, Growth: Regional Structure and Differentials in Japan," Hitotsubashi Journal of Economics (February, 1967), pp. 1-37.



Source: Table 1

Figure 2: Selected Development Indices: Japan, 1954-1975

As a result, it is now able to state that the change in value orientation since 1970 has been a factor for reduced rates of population concentration in the largest metropolitan regions.

Nonetheless, there are other factors which have been operative. Low values of PCC and PCCK since 1971 are clearly due to reduced growth rates of the economy as well as reduced income disparity among prefectures. However, it is also to be noted that there is a distinct time trend for increase in the rate of population concentration throughout the period. The annual rate of this increase is much greater than the annual rate of increase in the share of population. In the case of the Capital Region, the former (coefficient of T) is in the order of 5.0 to 6.0, whereas the latter was 0.38 on the average from 1950 to 1970.

Comparing the situation in 1974 with that of 1961 through Equation 1, it is known that each factor contributed to the change in PCC as shown below:

<u>Factor</u>	<u>Contribution to Change in PCC</u>
GR	-17
IDI	-69
T	78
TD	-31
<hr/>	
Net Change	-39

Thus, it can be concluded that the reduction in regional income disparity has been the most important factor for reducing the rate of population concentration in the Capital Region in the past. A similar statement is possible for the rate of population concentration in the Capital and Kinki Urban Regions combined.

III. The Korean Experience

The Korean experience can also be expressed by similar variables which are shown in Table 2 and Figure 4. Due to the use of census data, the rate of population concentration can only be derived for intercensus periods alone. Three indices for the rate of population concentration are used which are defined below:

- PCS - Percentage of incremental population absorbed in the Special City of Seoul,
- PCC - Percentage of incremental population absorbed in the Capital Region comprising Seoul and Gyeonggi Province, and
- PCCB - Percentage of incremental population absorbed in the Capital Region and the Special City of Busan together.

The rate of population concentration stayed at a low level until about 1966. But, it went up sharply during the four year period since 1966. During this period, the rate of population absorption in Seoul was particularly high. Since 1970, the rate of population concentration in these two metropolitan areas declined. Particularly, the rate of absorption in Seoul dropped sharply. It is to be noted that this whole pattern of rise and fall is quite similar to the one observed in the Japanese economy during the past twenty years. But, in Korea the process evolved in much a shorter span of time. As far as recent five to six years are concerned, the pattern looks quite similar.

The growth rate of the economy, however, is not so similar. The growth rate went up in 1961 and stayed generally at a high level, and it is going up rather than going down. Therefore, in this case the change in the growth rate of the economy cannot explain the declining rate of population concentration.

This puzzle can be largely resolved by the trend in income disparity among regions. In view of the range of disparity (ID1)

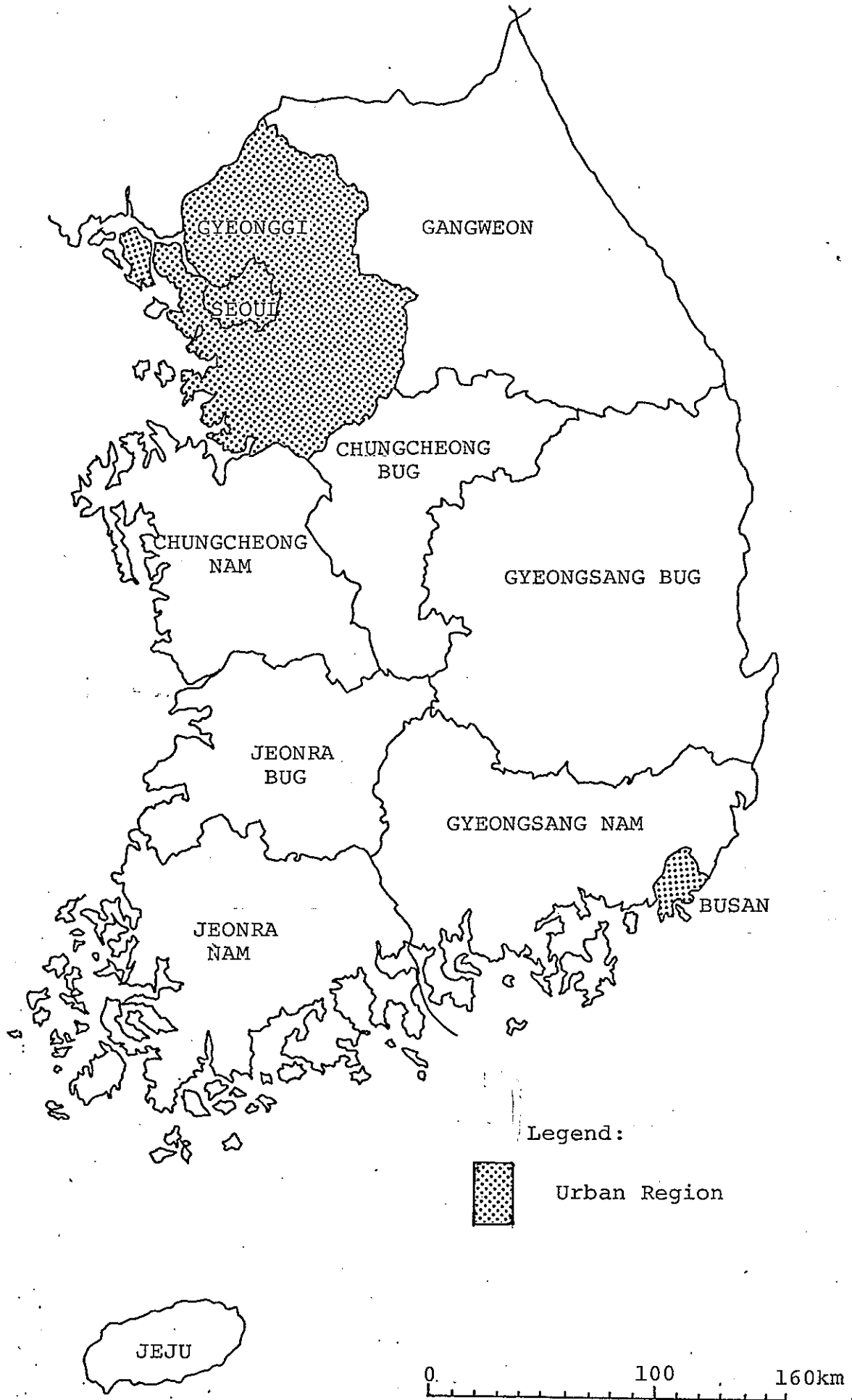


Figure 3: Provinces and Urban Regions in Korea

Table 2

Selected Development Indices: Korea, 1955-1975

	PCS ^{1/}	PCC ^{1/}	PCCB ^{1/}	GR ^{2/}	IDI ^{3/}	ID2 ^{3/}	MG ^{4/}
1955	↑	↑	↑	5.4			
56	↑	↑	↑	0.4			
57	↑	↑	↑	7.7			
58	↑	↑	↑	5.2			
59				3.9			
60	25.1	36.2	40.9	1.9			
1961	↑	↑	↑	4.8			
62	↑	↑	↑	3.1			
63	↑	↑	↑	8.8	92	0.266	
64	↑	↑	↑	8.6	72	0.194	
65	↑	↑	↑	6.1	94	0.291	
1966	32.4	40.9	47.2	12.4	110	0.337	
67	↑	↑	↑	7.8	127	0.371	3.2
68	↑	↑	↑	12.6	107	0.335	3.4
69				15.0	85	0.292	2.8
70	76.7	87.6	107.5	7.9	84	0.291	4.1
1971	↑	↑	↑	9.2	62	0.224	4.3
72	↑	↑	↑	7.0	65	0.213	3.4
73				16.5	66	0.241	4.4
74				8.6	57	0.218	4.8
75	41.7	62.7	80.4				

Sources: 1/ Computed from Korea Economic Planning Board, Korea Statistical Yearbook 1975 and Preliminary Release of 1975 Population Census.

2/ Bank of Korea, National Income in Korea, 1975, Seoul, 1975.

3/ Computed from Korea Ministry of Home Affairs, Annual Report of Gross Regional Products, 1972 and 1974, and 1974 Estimates of Regional Incomes (in Korean) and Robert R. Nathan Associates, Inc., Seoul Metropolitan Region First Cycle Report, 1975, p.47.

4/ Korea Economic Planning Board, Yearbook of Migration Statistics, 1974.

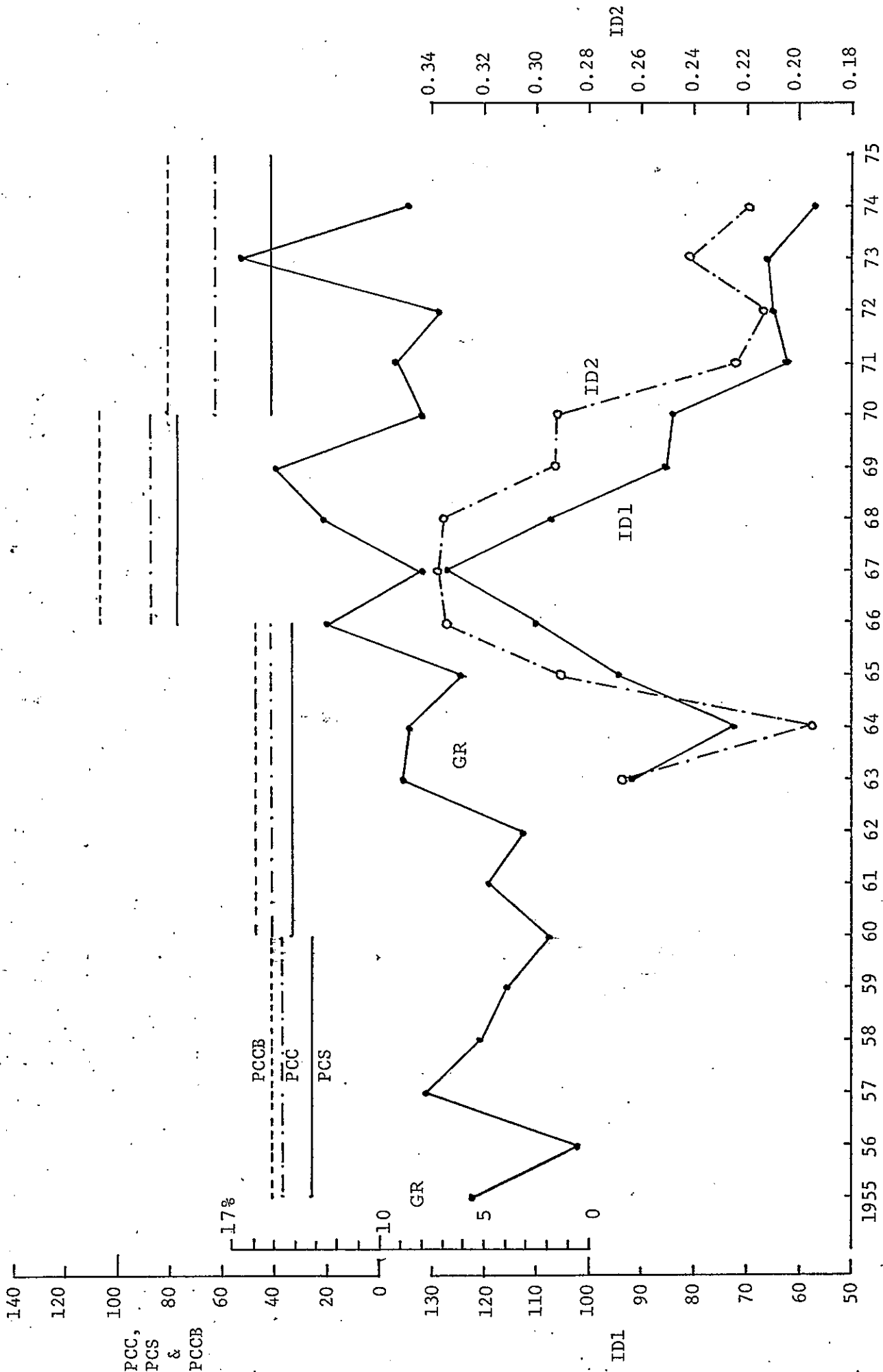


Figure 4: Selected Development Indices: Korea, 1955-1975

Source: Table 2

or the coefficient of variation (ID2), regional income disparity was high from 1965 to 1970 with 1967 at its peak. The high rate of population concentration in the largest metropolitan areas during the period must have been induced by a high rate of economic growth coupled with large income disparity among regions.

However, income disparity has been declining rapidly since 1967. The declining income disparity must have substantially removed perceived economic benefits derivable from migration to the largest metropolitan areas. It is to be noted that the declining rate of PCC or PCCB is taking place in the face of increasing mobility of population since 1967 which is represented in Table 2 by

MG - Percent of interprovincial migrants to the total population.

The above observations of the trends indicate that, although no regression analysis can be undertaken due to insufficient population data, the relationship found in the Japanese case appears also applicable: both economic growth and regional income disparity enhances the rate of population concentration. Then, the recent declining trend in the rate of population concentration should be attributable to reduced income disparity among provinces. This is taking place despite increasing mobility of population among provinces.

IV. Interpretation of the Two Observed Patterns

Major findings from the observation of the two cases can be summarized as follows: (1) the rate of population concentration has now passed its peak and is declining, and (2) the declining rate of population concentration is, wholly or in a large part, attributable to a declining income disparity among regions. As the first finding is considered to be a result of declining regional income disparity during recent years, attention will be paid below to the trend of regional income disparity observed in the two countries.

In the oft-cited paper by Williamson on the regional income disparity and economic development, he states:

Increasing regional inequality is generated during the early development stages, while mature growth has produced regional convergence or a reduction in differentials.^{11/}

According to this interpretation, the Japanese economy reached "maturity" around 1961 and the Korean economy around 1967, a difference of some 6 years. However, the level of development achieved by each country at her year of "maturity" cannot be said to be similar by almost any standard. As shown in Table 3, Japan in 1961 can be said to have been far more developed than Korea in 1967 by any of the indices shown. Similarity is found only in population density, which is not a development index by itself.

From the above comparison, it can be said that although the general rule of Williamson may hold true, the turning point in regional income disparity takes place within a wide range along the axis of development stages. This fact has an important policy implication. Williamson's rule may well be taken as determinism in the relationship between income disparity and economic development in that a country

^{11/} Williamson, op. cit.

Table 3
Development Indices at "Maturity"

	Per Capita GNP in 1973 Dollars	Percent of Labor Force in Primary Sector	Per Capita Electric Power Generated (KWH)	Motor Vehicles Registered Per 1000 Persons	Population Density ² (Persons/km)
Japan, 1961	1,300	29.8	1,384	24.4	250
Korea, 1967	240	55.2	166	2.1	299

Sources: For Japan, Office of the Prime Minister, Japan Statistical Yearbook, 1975 (Tokyo: Ministry of Finance Printing Office, 1975), Economic Planning Agency, Annual Report on National Income Statistics (Tokyo: Ministry of Finance Printing Office, 1975).

For Korea, Economic Planning Board Bureau of Statistics, Korea Statistical Yearbook, 1975 (Seoul: EPB, 1975).

should give up reducing income disparity among regions until a certain, perhaps fairly advanced, stage of development is attained. But, the Korean case demonstrates that this stage could be fairly in an early phase of development. If the experience of Korea is used as the basis and per capita income is taken as the index of development, 85 countries out of 125 countries listed in World Bank Atlas already passed this stage in 1973.^{12/} In addition, 8 countries out of the remaining 40 countries which were below the per capita income level of \$240 can reach the level with 50 percent or less increase in per capita income.

Granting that a wide range exists for the turning point, the next question is what accounts for the early turn demonstrated by Korea. External factors such as the small size of the country or the physical features might be considered as possible factors. Although the smallness in size might be a factor for having lesser degree of disparity, as expressed by indices, it would not be a factor for early reduction in disparity. The physical features as related to the development of port facilities might be a factor, however. The southeast and southern coasts are endowed with better natural conditions for ports for ocean-going vessels. In addition, these coastal locations are closer to the two major trading partners, the U.S. and Japan. These might have helped the development of the less-developed southern regions as the economy developed significantly through growth in exports. Nonetheless, these factors would not have been enough for altering the trend.

As far as explicit locational policies of the Government are concerned, none appears to have been instrumental. A Grand National Land Construction Plan was prepared in 1967, but it merely paved a way for more detailed national land use plan which was completed in 1971. Dispersion of industrial development into less developed region became an explicit policy of the Government, but the legislations for this purpose were enacted only in 1970.

^{12/} The countries having population of less than one million are excluded. The source is published by IBRD, 1975.

The New Community Movement was launched, but it started in 1970. A resident tax which was aimed at discouraging residence in the largest metropolitan areas was instituted in 1973. Thus, all these policies aimed at deconcentration at the largest metropolitan areas and encouraging less-developed areas could not be credited for declining income disparity which started in 1968.

There is one exception, however. It is the pricing policy for farmers. Due to Government policies for farm products and inputs, the terms of trade for farmers started to improve in 1968 and the improvement was substantial from 1970 to 1973. The impact of the pricing policies can be read from Tables 4 and 5 in which per capita income index by province is shown by current and constant prices. Although no estimate of per capita income is made for predominantly urban Special City of Seoul from 1966 to 1969, Busan can be taken as an urbanized province. The terms of trade for the lowest income province improved relative to Busan about 2% from 1967 to 1968, 6% from 1968 to 1969 and 9% from 1969 to 1970. The terms of trade for farmers from 1968 to 1975 are shown in Table 6. These figures show that the declining income disparity which started to appear since 1968 was largely due to pricing policies of the Government.

Nonetheless, terms of trade for farmers cannot be improved indefinitely. In fact, they reached a peak in 1973 and, since then, they are very gradually eroding. However, income disparity is not necessarily widening again. In other words, Korea might have shifted the turning point in income disparity earlier by several years than otherwise by improving the terms of trade for farmers.

Table 4

Per Capita GRP by Province in Index Based on Current Prices, 1963-1974^{a/}

Province/City	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Seoul	220	185	221	246	303	263	218	218	180	183	188	176
Busan	174	134	196	201	247	251	223	211	182	169	188	182
Gyeonggi	131	117	110	119	150	137	134	135	126	122	139	141
Gangweon	115	101	108	109	142	127	111	114	103	101	100	103
Chungcheong Bug	114	111	115	117	137	138	125	124	117	116	118	120
Chungcheong Nam	119	106	106	109	134	135	114	113	109	108	108	111
Jeonra Bug	123	115	108	108	117	114	110	109	108	112	101	106
Jeonra Nam	104	102	100	100	100	100	100	100	100	100	100	100
Gyeongsang Bug	120	106	118	111	130	123	117	109	106	104	107	111
Gyeongsang Nam	100	100	117	109	132	134	131	130	138	132	140	154
Jeju	108	113	146	125	133	149	124	116	113	112	122	121
Range of Disparity Coefficient of	120	85	121	146	203	163	123	118	82	83	88	82
Variation ^{c/}	0.266	0.194	0.291	0.337	0.371	0.335	0.292	0.291	0.224	0.213	0.241	0.218

Note: ^{a/} The lowest province=100^{b/} The highest index minus the lowest index.^{c/} Standard deviation divided by the mean.

Source: Computed by the author from Ministry of Home Affairs, Annual Report of Gross Regional Products, 1972 and 1974, and 1974 Estimates of Provincial Incomes and Bank of Korea, National Income of Korea, 1975.

Table 6

Terms of Trade of Farmers, 1968-1975

<u>Year</u>	<u>Index</u>
1968	94.3
69	97.7
70	100.0
71	106.1
72	113.3
73	114.7
74	112.0
75 ^{a/}	111.6

a/ Average for the first eleven months.

Source: Economic Planning Board, Monthly Statistics of Korea, January 1976, pp.77-78.

By the time the terms of trade reached a practical limit, other factors appear to have become operative in preventing regional income disparity from widening again. One would be the set of locational policies described above and another is likely to be the maintenance of high growth of the economy for an extended period of time. The latter has certainly reduced labor surplus within the economy. For example, within the agricultural sector, the percentage of workers who worked 26 or less hours per week declined from 25.1% in 1968 to 11.5% in 1974, and within the combined sectors outside of agriculture, it went down from 5.0% to 1.7% during the same period.^{13/} This reduction in surplus labor must have led to narrowing of income disparity among regions. As far as the locational policies are concerned, every one of them is quite recent as described above, and their effects are known to have been rather marginal as of 1974.

Therefore, substantial reduction in the rates of population concentration in Korea observed during recent years can be said to be mainly attributable to (1) the pricing policies for farmers, and (2) the maintenance of high growth of the economy. The first factor was predominant during the early years from 1967, but recent reductions are mainly due to the second factor. The high rate of economic growth works to reduce the rate of population concentration through reducing interregional disparity of income.

^{13/} Economic Planning Board Bureau of Statistics, Korea Statistical Yearbook, 1975, Seoul, 1975, p. 72.

V. Conclusions

Comparison of the development experiences of Japan and Korea revealed that the rule of Williamson on regional income disparity and economic development leaves a wide margin of flexibility with respect to per capita income. Korea reversed the widening trend of income disparity at a substantially earlier stage than Japan first by improving the terms of trade for farmers through pricing policies. When this approach was about to run against its limit, the high rate of economic growth which was maintained for more than 10 years prior to that time, started to have an effect of reducing income disparity among regions. The reduction in income disparity apparently contributed materially to the recent reduction in the rate of population concentration in the primate urban regions. In the case of Japan, an essentially identical process of the latter type was operative for reducing income disparity and, subsequently, the rate of population concentration. But, the process took a much longer period of time.

From the observation of these two cases, it appears quite probable that the maintenance of high growth of the economy is an effective way of reducing the rate of population concentration as well as reducing income disparity among regions once the economy reaches a certain stage. The Korean case also demonstrates the possibility of shifting the turning point in income disparity earlier by several years through the use of pricing policies in favor of farmers. In this way Korea was successful in reversing the widening trend of regional income disparity when per capita GNP was only \$240. The Korean experience is particularly encouraging for currently developing countries, as she succeeded in reversing the worsening trends at a fairly early stage of development.

